Experimental Animal Model for the Pathogenesis Study of Dengue Virus Serotypes 1 and 2/ Technique Manual

D.F. Barreto-Vieira, O. M. Barth, H.G. Schatzmayr

Fundação Oswaldo Cruz, Instituto Oswaldo Cruz, Laboratório de Morfologia e Morfogênese Viral, RJ, Brazil. E-mail: *barreto@ioc.fiocruz.br

It is known that millions of individuals are annually infected by the dengue viruses (DENV), particularly in tropical and subtropical regions. The mortality tax is low, but the infection can take a severe form characterized by hemorrhage and shock.

Already they are passed sixty years since the isolation of the DENV viruses and still no vaccine accomplishing against these viruses was developed. One of the problem for the development of a candidate vaccine and drug is the existence of some gaps referring to pathogenesis of the Dengue Hemorrhagic Fever (DHF) and the absence of an animal model that simulates an infection as in human cases of the illness.

Stimulated for the necessity of an animal model to the study the pathogenesis of DENV viruses, it was initiated in 1997 in the Laboratório de Morfologia e Morfogênese Viral, Departamento de Virologia, Instituto Oswaldo Cruz, Fundação Oswaldo Cruz, a research line with the objective to elucidate this gap [1]. The result of ten years of experience was presented to the scientific society through monographs, doctorate thesis and articles published in national and international magazines. In the present manual (fig. 1) will be relate part of our experience using different techniques (figs. 2-5) (mainly photonic and transmission electron microscopies), that had helped to elucidate some points referring to pathogenesis of the DENV viruses and we wait that this will be seen and used as an instrument of orientation for professionals of the research interested in confrontation with this serious problem of public health.

References
FIG. 1. Manual of techniques the study of pathogenesis of BALB/c mice infected with dengue virus serotypes 1 and 2.

FIGS. 2-4. Manual diagrams (figs. 2-3) and photo (fig.4) regarding the processing of samples for transmission electron microscopy.

FIGS. 5-6. Manual schemes related to the routes of inoculation of BALB/c mice: intravenous (fig. 5) and intraperitoneal (fig 6).